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17 CALIFORNIA STATE WATER RESOURCES CONTROL BOARD

18 IN THE MATTER OF PERCHLORATE  
19 CONTAMINATION AT A 160-ACRE  
20 SITE IN THE RIALTO AREA  
21 (SWRCB/OCC FILE A-1824)

Case No.: SWRCB/OCC FILE A-1824

**GOODRICH CORPORATION'S BRIEF**

Hearing Date: May 8-10 & May 15-17, 2007  
Time: 10:00 a.m.  
Place: San Bernardino County Auditorium

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**I. INTRODUCTION**

For the second time in five years, Goodrich is being forced to defend itself against baseless allegations brought by the Santa Ana Regional Water Board Staff. In 2002, the first time the "Advocacy Team" issued a CAO accusing Goodrich of contaminating the Rialto/Colton Groundwater Basin with perchlorate and TCE, the Regional Board held a full hearing and rescinded the CAO due to a lack of evidence. Today, the Advocacy Team's evidence is no stronger than it was in 2002. Indeed, the Advocacy Team cannot present a single witness that can testify that discharges from Goodrich's operations have even reached groundwater or threaten to reach groundwater.

Goodrich is being dragged through this costly and time-consuming procedure again not because there is any new found evidence of its responsibility for the contamination of the Rialto/Colton Basin, but rather because the Advocacy Team is under tremendous pressure from the public and from local and state politicians to find someone, regardless of their culpability, to cleanup the Rialto/Colton Basin. Goodrich, along with the other entities named in this proceeding, simply have been singled out from numerous former and current operators on the 160-acre site, many of which used and disposed of large amounts of perchlorate on the site.

The pressure to find a scapegoat, without any evidence of responsibility, however, is not a permissible reason to seek to lay blame on Goodrich. This is particularly true where, as here, the evidence pointing to the actual culpable parties is so clear. The evidence is overwhelming that contamination in the Rialto/Colton Basin was caused by years of manufacturing, testing, and disposing of fireworks on the 160-acre site. The poorly constructed, negligently maintained disposal pool used by fireworks manufacturers for more than fifteen years to dispose of tons of off-spec fireworks, propellants, and chemical mixtures containing perchlorate at the site is the only confirmed source of perchlorate contamination in groundwater on the 160-acre parcel.

The McLaughlin Pit, as the Apollo/Pyrotronics fireworks hazardous waste surface

1 impoundment has come to be known, was no secret to the Regional Board staff. In fact,  
2 the Regional Board staff actually approved a WDR for the disposal of 3,000 gallons per  
3 day of pyrotechnic wastes containing high concentrations of perchlorate into the pit.  
4 Members of the Advocacy Team, and other senior management of the Santa Ana  
5 Regional Board staff, personally observed and documented numerous violations at the  
6 McLaughlin Pit over the years, including contaminated water overflowing from the Pit.  
7 Yet the Regional Board staff did nothing. Under the Regional Board staff's supervision,  
8 the McLaughlin Pit fell into disrepair as thousands upon thousands of pounds of  
9 pyrotechnic waste were dumped into it, creating one of the most dangerous hazardous  
10 waste sites in the Santa Ana Region. Yet still the Regional Board staff did nothing. Not  
11 once did the Regional Board staff cite Pyrotronics, issue any penalties against  
12 Pyrotronics or even threaten any action.

13         This was despite regulations that the Regional Board was mandated to enforce  
14 that required monitoring to determine if the pit had leaked – monitoring that was never  
15 performed – and that required perchlorate to be sampled for when leaks are detected at  
16 hazardous waste surface impoundments such as McLaughlin Pit. When it came time to  
17 close the McLaughlin Pit in 1987, the Regional Board staff failed to require Apollo,  
18 Pyrotechnics, or anyone else to comply with applicable Subchapter 15 regulations  
19 regarding closure. More surprisingly, the Regional Board staff decided the area under  
20 the pit was clean based on only one sample – a sample that failed to test for perchlorate,  
21 nitrate, or any of the likely contaminants that were leaking from the obviously corroded  
22 pool. In fact, extraordinarily high levels of perchlorate have been detected in the entire  
23 400-foot soil column under the McLaughlin Pit, with sample results showing perchlorate  
24 concentrations of hundreds of thousands of parts per billion in the soil under the pit. As  
25 result of the Regional Board staff's failure to properly regulate the Pit, failure to properly  
26 close it, and failure to require any effective sampling to determine leakage, massive  
27 releases of perchlorate into the soil and groundwater at the 160-Acre site occurred.

28         The City of Rialto, also a prosecutor in this proceeding, is not without blame with

1 regard to the McLaughlin Pit. The City issued a negative declaration for the subsequent  
2 development of the property on which the McLaughlin Pit is located, but never enforced  
3 its mitigation measures. According to the City's mitigation measures, Ken Thompson,  
4 Inc., the subsequent owner of the McLaughlin Pit, was to properly and lawfully close the  
5 Pit and obtain approval from several agencies after having done so. But there is no  
6 evidence that a proper closure of the McLaughlin Pit ever occurred or that Ken  
7 Thompson, Inc. ever got required agency approvals. Indeed, it was the City that stood  
8 by as Ken Thompson's consultant – who lacked the professional licenses required by  
9 regulation – burned 54,000 pounds of hazardous waste in the pit in violation of  
10 numerous federal and state laws. And it was the City of Rialto that was the only  
11 governmental agency that signed off on the illegal burn.

12 The result of the Regional Board staff's and the City of Rialto's neglect is that the  
13 McLaughlin Pit was permitted to leach perchlorate contaminated waste into the ground  
14 for decades, contaminating the Rialto/Colton Basin.

15 Simply because Goodrich conducted limited operations in Rialto approximately 50  
16 years ago does not support issuing the subject CAO against Goodrich. Moreover, while  
17 Goodrich has always maintained its innocence, Goodrich's history with the Regional  
18 Board has always been one of cooperation. Goodrich provided four million dollars to  
19 water purveyors and spent millions more investigating not only the 160-acre parcel but  
20 also contamination miles downgradient of the 160-acre parcel. The results of this  
21 thorough investigation are conclusive—Goodrich did not cause or contribute to the  
22 groundwater contamination in the Rialto/Colton Basin.

23 This brief will show, with overwhelming evidence, that: (1) Goodrich did not  
24 discharge any TCE or ammonium perchlorate into the groundwater;  
25 (2) Pyrotronics/Apollo's operations on the 160 acre site, including its use of the  
26 McLaughlin Pit, discharged massive amounts perchlorate into the groundwater, and  
27 (3) the Regional Board staff's and the City of Rialto's negligent oversight of the operation  
28 and closure of the McLaughlin Pit allowed water containing high concentrations of

1 perchlorate to reach and contaminate the Rialto/Colton Groundwater Basin.

## 2 **II. BACKGROUND**

3 After ten years of investigation and five years of cooperation and investigation by  
4 Goodrich costing millions of dollars, the Advocacy Team still has no credible evidence to  
5 issue a cleanup and abatement order, or Section 13267 order, to Goodrich. Yet, it  
6 persists in seeking to have the Draft Amended Cleanup and Abatement Order, No. R8-  
7 2005-0053, adopted (the "Draft CAO"). Draft Amended Cleanup and Abatement Order,  
8 No. R8-2005-0053; Letter from Jorge Leon to Tam Doduc and Karen O'Haire, February  
9 27, 2007 (stating that Draft CAO constitutes pleading for this proceeding). The  
10 Advocacy Team's request should be summarily denied and the Draft CAO should be  
11 dismissed by the State Water Resources Control Board (the "State Board").

12 The Draft CAO alleges that Goodrich is liable under Water Code Section 13304  
13 for operations that occurred in Rialto, California from 1957 to 1964. Draft CAO, Findings  
14 ¶¶ 27-34. The Advocacy Team claims that Goodrich's operations on a 160-acre parcel  
15 in Rialto "have caused or permit waste, i.e., perchlorate and/or trichloroethylene (TCE),  
16 to be discharged or deposited where it is, or probably will be, discharged into waters of  
17 the state." Draft CAO, Finding ¶ 1. Through the Draft CAO, the Advocacy Team seeks  
18 to order Goodrich and the other alleged dischargers to (1) essentially investigate and  
19 remediate the entire Rialto-Colton groundwater basin, which by the Advocacy Team's  
20 own estimate would cost hundreds of millions of dollars; (2) provide water replacement  
21 or contingency plans for 16 public drinking water wells as far away as six miles; and (3)  
22 even authorize the Executive Officer, a member of the Advocacy Team, to order the  
23 alleged dischargers to reimburse water purveyors for millions of dollars in costs  
24 purportedly incurred in cleaning up waste, abating the effects of waste, supervising  
25 cleanup and abatement, and taking remedial action. Draft CAO, Order ¶¶ 1-13.

26 As demonstrated below, both the Draft CAO and the Advocacy Team's  
27 Memorandum of Points and Authorities ("Ad. Team P&A's") and exhibits submitted on  
28 March 27, 2007, lack any credible evidence demonstrating that a discharge occurred

1 from Goodrich's operations into waters of the state. Rather, the Advocacy Team's cases  
2 boils down to overly simplistic claims that perchlorate or TCE contamination is coming  
3 from the 160-acre parcel and, as a result, Goodrich should be saddled with liability. This  
4 approach is grossly inadequate as a matter of law and under the facts of this case and  
5 will not withstand judicial scrutiny. *The law does not tolerate such imprecision.* The  
6 evidence detailed below demonstrates that Goodrich's operations did not cause  
7 contamination to the groundwater and that there are numerous other potential sources of  
8 perchlorate and TCE on the 160-acre parcel and throughout the Rialto-Colton basin.  
9 They include the two decades of fireworks manufacturing by Pyrotechnics on the 160-acre  
10 parcel and its use of the Regional Board's sanctioned disposal impoundment (a.k.a. the  
11 "McLaughlin Pit"), the only confirmed source of perchlorate groundwater contamination  
12 on the 160-acre parcel according to the Advocacy Team's own account; the Robertson  
13 Ready Mix operations where the Regional Board permitted millions of gallons of water to  
14 wash through perchlorate contaminated soil; and the historic widespread application of  
15 Chilean Nitrate fertilizer in citrus orchards throughout the basin.

16 Likewise, the 2006 Draft CAO falls far short of any legal authority for its issuance.  
17 In seeking this relief, the Advocacy Team relies on many significant misunderstandings  
18 of the law. To start with, the Advocacy Team incorrectly assumes that the very statutes  
19 it seeks to prosecute Goodrich under, Cal. Water Code Sections 13304 and 13267, can  
20 be retroactively applied to conduct which began fifty years before these proceedings and  
21 ended years before the statutes' operative dates in 1970. This assertion runs contrary to  
22 case law that is nearly as old as this country that laws are not, and presumed not to be,  
23 retroactive, as well as the express provisions of and legislative history of the statute. As  
24 is evident below, even should the State Board erroneously seek to hold Goodrich liable  
25 under Water Code Section 13304, there is no evidence that Goodrich's acts violated any  
26 laws at the time of its operations in Rialto. In fact, Goodrich, a military government  
27 contractor, was required to comply with and follow specific military directives as to the  
28 handling and disposition of perchlorate and solvents. This alone precludes the State



1 Board from issuing an order to Goodrich. Equally misguided is the Advocacy Team's  
2 passing assertion that Goodrich is jointly and severally liable under Water Code Section  
3 13304. Both the law and the Regional Board's own hand in causing the contamination  
4 prohibit the imposition of joint and several liability on Goodrich.

5 For these and the reasons set forth herein, Goodrich respectfully requests that the  
6 State Board dismiss the Draft CAO in its entirety.

### 7 **III. GOODRICH OPERATIONS**

#### 8 **A. Historical Background of Goodrich's Operations**

9 In the late 1950's The B.F. Goodrich Company, now Goodrich Corporation  
10 ("Goodrich"), made an unsuccessful attempt to enter the "Space Race" through the  
11 manufacturing of solid rocket propellant. See Ex. 10 (GRC-018833-51); see also Merrill  
12 Dec. ¶ 12. At the time, Goodrich was hoping to parlay its knowledge of binders used in  
13 the manufacturing of rubber, for such items as tires, to help it move into the solid rocket  
14 propellant business. *Id.*; see also Ex. 10 (GRC-018833-51) ("The solid rocket motor  
15 business is a promising field for which our chemical polymer knowledge fits us.") To that  
16 end, Goodrich started a small research and development team in Brecksville, Ohio to  
17 study solid rocket propellant. *Id.* Soon, Goodrich decided to open a facility in Rialto,  
18 California with the hopes of obtaining production contracts from the United States  
19 Department of Defense. *Id.*

20 In September of 1957, Goodrich transferred approximately ten people from  
21 Brecksville, Ohio to Rialto, California to begin setting up this new research and  
22 development facility. Wever Dec. ¶ 3. It was not until 1959 that Goodrich obtained a  
23 contract with the United States government for actual production of rocket motors. Ex. 1  
24 (KWKA00452123-29) (April 2, 1959 Negotiated Contract for Nord 18853); Ex. 52  
25 (KWKA00452143-82) (June 4, 1959 Negotiated Contract for Nord 18966). The first  
26 production contract Goodrich obtained was for the Loki motor, also referred to as the  
27 HASP (High Altitude Sounding Projectile). *Id.* Two years later, in 1961, Goodrich  
28 obtained a contract to produce the Sidewinder missile. See e.g., Ex. 82

1 (KWKA00452529) (April 18, 1961 Navy Memo).

2 Goodrich operated on the Rialto property for just five years before it was forced to  
3 close its plant. During these five years, Goodrich attempted, unsuccessfully, to establish  
4 a full scale rocket motor production operation servicing United States government  
5 contracts. Unfortunately, Goodrich encountered difficulties in the production of both the  
6 Loki and the Sidewinder, ultimately forcing it to shut down its operations in 1963. See  
7 e.g. Ex. 54 (KWKA00452247-48); Ex. 57 (KWKA00452281); Ex. 60 (KWKA00452283);  
8 Ex. 65 (KWKA00452314); Ex. 74 (KWKA00452541-45); Ex. 12 (KWKA00452713-14);  
9 Ex. 14 (KWKA00452719-23); Ex. 95 (KWKA00452736-77); Ex. 96 (KWKA00452730-51)  
10 Ex. 98 (KWKA00452749-57); Wever Dec. ¶ 46. In total, **less than 1,000 production**  
11 **rockets were produced by Goodrich** in Rialto before the plant ceased operations. Ex.  
12 1 (KWKA00452123-29) (contract Nord 18853 totals 185 Loki motors); Ex. 52  
13 (KWKA00452143-182) (contract Nord 18966 totals 600 Loki motors); Ex. 74  
14 (KWKA00452541-45) (contract Nord 18966 reduced to 330 Loki motors); Ex. 93  
15 (KWKA00452719-23) (indicates a Sidewinder contract for 311 motors but cracking  
16 developed in Lot 3); Merrill Dec., Ex. A.

17 Unlike later operators on the Property, during its five years of operation, Goodrich  
18 had an excellent safety record – not one explosion occurred during Goodrich's tenure.  
19 Wever Dec. ¶ 6, 62; Haggard Dep., 38:25-39:8. To ensure the safety of the facility,  
20 Goodrich followed standard industry practices at that time, and the then-existing  
21 government regulations on the use, handling and disposal of chemicals used to make  
22 solid rocket motor propellant. Wever Dec. ¶¶ 6, 54; Haggard Dep., 38:25-39:8.

23 All of Goodrich's waste solid propellant was disposed of by burning in a burn pit.  
24 Sachara Dec. ¶ 9; Graham Dec. ¶ 5-6; Beach Dec. ¶ 11; Willis Dec. ¶ 19; Staton Dep.,  
25 24:22-25:2. The burning of propellant waste is a highly efficient means to dispose of this  
26 waste. Wever Dec. ¶¶ 54-55; Oxley Dec. ¶ 13-14; Merrill Dec. ¶ 15; Ustan Dec. ¶ 8.  
27 During Goodrich's entire short-lived tenure in Rialto, all scrap propellant, excess oxidizer,  
28 and spent solvents were promptly collected, placed in combustible containers and taken

1 to the burn pit for disposal. Sachara Dec. ¶ 9; Graham Dec. ¶ 5-6; Beach Dec. ¶ 11;  
2 Willis Dec. ¶ 19; see also Staton Dep., 24:22-25:2. Former Goodrich employees have  
3 repeatedly testified under oath that propellant and other chemicals (including oxidizer  
4 and solvent) were never left laying on the bare ground at the facility, were never buried  
5 at the site, and were never disposed of in a pond, ditch, leach field or landfill at the  
6 facility. Sachara Dec. ¶ 6; Holtzclaw Dec. ¶ 10-12; Graham Dec. ¶ 9-11; Beach Dec.  
7 ¶ 8; Willis Dec. ¶ 20; Shook Dep., 30:10-14, 53:2-60:6; Staton Dep., 15:5-17:23; Garee  
8 Dep., 79:1-23; Morris Dep., 36:6-38:24; Haggard Dep., 36:6-38:24, Hernandez Dec. ¶ 5-  
9 7; Bland Dec. ¶¶ 10-1; Ustan Dec. ¶ 8. Because Goodrich burned all combustible  
10 industrial waste, the available evidence leads to the conclusion that Goodrich's short  
11 lived and small-scale operation did not contaminate, and does not threaten to  
12 contaminate, the groundwater at the 160-Acre Parcel or the Rialto-Colton Basin. Oxley  
13 Dec. ¶ 13-14; Kavanaugh Dec. ¶ 90, 92-96, 98; Kresic Dec. ¶ 52-53.

#### 14 1. Goodrich Never Operated A Large-Scale Facility in Rialto

15 Goodrich never operated a large-scale rocket production facility in Rialto. Merrill  
16 Dec. ¶ 24. Indeed, Goodrich principally produced two rockets – the Loki and the  
17 Sidewinder. Both of these rockets were relatively small, the Loki was approximately five  
18 feet long and three inches in diameter and held approximately 16.8 pounds of propellant.  
19 Ex. 4 (KWKA00452572-591); Merrill Dec. ¶ 23, Ex. A. Initially, the Loki I loaded at  
20 Goodrich used a Thiokol propellant. Wever Dec. ¶ 13; see also Ex. 54  
21 (KWKA00452247-48); Ex. 80 (KWKA00452271-77). Later on, after Goodrich  
22 researchers created their own proprietary propellant, the Loki II was produced using the  
23 new Goodrich formulation. *Id.* In total, less than 600 Lokis, including both the Loki I and  
24 the Loki II, were produced by Goodrich at its Rialto facility. Ex. 1 (KWKA00452123-29);  
25 Ex. 2 (KWKA00452202-3); Ex. 8 (KWKA00452314); Ex. 9 (KWKA00452557-59); Merrill  
26 Dec. ¶ 20, Ex. A.

27 The Sidewinder was a small air-to-air missile used by the United States military.  
28 Wever Dec. ¶ 14. The Sidewinder was approximately five feet long and between five to

1 eight inches in diameter and weighed approximately 55 pounds. Ex. 20387  
2 (KWKA00452050). Because of cracking in the propellant grain, Goodrich never  
3 completed its production contract with the United States Navy. As a result of the Navy  
4 cancelling this contract, fewer than 500 Sidewinder motors were loaded at Goodrich's  
5 facility in Rialto. Ex. 11 (KWKA00452643-44); Ex. 12 (KWKA00452713-14); Ex. 13  
6 (KWKA00452702-06); Ex. 14 (KWKA00452719-23); Ex. 15 (KWKA00452767-78); Ex. 17  
7 (KWKA00452740-43); Ex. 19 (KWKA00452634-37); Ex. 84 (KWKA00452616-20); Ex. 86  
8 (KWKA00452634-37); Ex. 89 (KWKA00452677-78).

9 While Goodrich also produced other motors, such as the ASP, RTV, Atmos and  
10 spherical motors, these motors were produced on a very small scale and were mainly for  
11 research and development purposes. Wever Dec. ¶ 10, 11, 12; Sachara Dec. ¶ 3, 15;  
12 Graham ¶ 4. It is unclear the exact number of these motors produced at Goodrich, but  
13 there is no evidence that any significant numbers were produced. Wever Dec. ¶ 10, 11,  
14 12. Moreover, other than the Atmos and spherical motors, there is no evidence that the  
15 propellant used in these motors contained ammonium perchlorate. Wever Dec. ¶ 10, 11,  
16 12; see also Graham Dec. ¶ 4.

17 In total, Goodrich produced well-under one thousand production rocket motors at  
18 its Rialto facility. Merrill Dec. ¶ 20, 25, Ex. A. Based on the relatively small size of these  
19 motors, the total amount of propellant burned at Goodrich's Rialto facility is less than  
20 12,000 pounds. Merrill Dec. ¶ 20-23, Ex. A. Dr. Claude Merrill, an expert in the field of  
21 rocket manufacturing who has worked for the United States Air Force since 1966 at the  
22 Edwards Rocket Site, has visited numerous government contractor facilities where  
23 propellant was manufactured and tested. Merrill Dec. ¶ 1-4. It is Dr. Merrill's opinion  
24 that the amount of propellant produced at Goodrich is far less than many other rocket  
25 facilities during this time (facilities the Advocacy Team claims are similar to that of  
26 Goodrich's Rialto facility). See Merrill Dec. ¶ 24 ("Based on my knowledge of other  
27 rocket production facilities, including that of Thiokol, Hercules, Aerojet, United  
28 Technologies, and Atlantic Research Corporation, it is my opinion that the Goodrich

1 operation in Rialto, California, in comparison to these other solid rocket manufacturers,  
2 was a very small operation. . . . Total Goodrich production estimate of solid rocket  
3 propellant at the Rialto plant was much less than 45,700 pounds; this total amount is  
4 about what was put into one Minuteman Stage 1 motor in 1961 (the Minuteman Stage 1  
5 motor contained approximately 45,000 pounds of solid propellant).”).

## 6                   **2.     The Production of Propellant at Goodrich in Rialto, California**

7           The entire propellant production process at Goodrich’s facility in Rialto, California  
8 took place indoors, including the lining of the motor casing, the oxidizer processing, the  
9 mixing of propellant, loading the propellant into rocket motors, curing the rocket  
10 propellant, and delivering finished products to the government. Wever Dec. ¶ 16-39.

11           The first stage in the process involved the lining of rocket motors themselves and  
12 took place inside the liner building. Wever Dec. ¶ 16. The lining process involved  
13 applying a layer of the binder system mixed with carbon black to the inside of the motor  
14 casing. Wever Dec. ¶ 16; Willis Dec. ¶ 4. This process did not require the use of  
15 ammonium perchlorate or solvent. *Id.* Upon completion of this process, the motor  
16 casings were taken to the casting/curing building. *Id.*

17           Before the propellant was mixed, the oxidizer was processed by the grinding,  
18 blending, and drying of the oxidizer. Goodrich had a very specific procedure regarding  
19 the handling of oxidizer at the Rialto facility, and in an effort to contain the small amounts  
20 of fugitive materials produced during the processing, all of the oxidizer was processed in  
21 a single building. Wever Dec. ¶ 17-26; see also Willis Dec. ¶ 5. A portion of the  
22 oxidizer, approximately 25%, was ground to produce a smaller particle size to achieve a  
23 specific burn rate. Wever Dec. ¶ 22-23. To grind the oxidizer, Goodrich used a small,  
24 laboratory sized hammermill. *Id.* During the grinding process, a screen and dust bag  
25 were used to minimize the amount of fugitive emissions. *Id.* After the grinding process,  
26 the ground oxidizer was placed into a drying oven. Wever Dec. ¶ 24; Willis Dec. ¶ 5.  
27 Once the ground oxidizer was dried, the ground and un-ground oxidizer was blended  
28 together in a V-shell blender. *Id.* After the blending process was completed, the

1 processed oxidizer was transported to the mixing building. Wever Dec. ¶ 24.

2 After the ingredients were transported to the mixing building, the oxidizer was  
3 placed into a mixer along with the other propellant ingredients according to a specific  
4 "recipe" and specified sequence. Wever Dec. ¶ 27. The transfer of the oxidizer from the  
5 transfer vessel into the mixer was a clean and dustless procedure. *Id.* ¶ 29. Indeed, the  
6 entire mixing process did not result in any fugitive emissions of chemicals. Wever Dec. ¶  
7 30. After a batch of propellant was mixed, the uncured propellant was transferred to a  
8 transfer vessel and taken to the casting and curing building on a wheeled cart. Wever  
9 Dec. ¶ 30, 34; Willis Dec. ¶ 8.

10 For most of Goodrich's operations, a 100 gallon mixer and 25 gallon mixer was  
11 used in the production process. Wever Dec. ¶ 28; Sachara Dec. ¶ 5; Ustan Dec. ¶ 11.  
12 Towards the very end of Goodrich's tenure, a new 150 gallon mixer building was  
13 constructed. Sachara Dec. ¶ 5. Due to the sudden cancellation of the Sidewinder  
14 production contract, this 150 gallon mixer was used at most on one occasion. Sachara  
15 Dec. ¶ 5.

16 The casting and curing building consisted of one room with four separate curing  
17 pits (or ovens). Wever Dec. ¶ 34-35. The propellant was loaded into the motor casings  
18 from the transfer vessel by gravity through a funnel. Wever Dec. ¶ 36. Once the motor  
19 casing was full, the funnel valve was closed and moved to the next motor casing to be  
20 loaded. *Id.* There were no fugitive emissions during the process of transferring the  
21 propellant from the transfer vessel to the motor casing. *Id.* After the casting process, a  
22 mandrel was placed in the motor casing. Wever Dec. ¶ 38. The propellant was then  
23 allowed to cure for a specific period of time at a specific temperature to allow the  
24 propellant to harden in the motor casing. Wever Dec. ¶ 39. Once the propellant was  
25 cured and the motors had cooled, the motors were removed from the curing pits and any  
26 tooling, including the mandrel, was removed. *Id.*

27 After the curing process, a very small amount of propellant was trimmed from the  
28 motor casing. Wever Dec. ¶ 40 ("Because the tooling was designed to minimize the

1 amount of hand trimming, very little trimming was necessary, I am confident that it was  
2 less than 1/10% of the total material loaded into the motor.”); Willis Dec. ¶ 10; Beach  
3 Dec. ¶ 5; Sachara Dec. ¶ 11; Haggard Dep., 74:19-77:7; Bland Dec. ¶ 8 (“It is my best  
4 estimate that less than half a pound of cured propellant was trimmed from each Loki  
5 motor.”); Ustan Dec. ¶ 12. Due to the design of the tooling utilized by Goodrich, very  
6 little trimming was actually necessary. Wever Dec. ¶ 40; Beach Dec. ¶ 5; Haggard Dep.,  
7 74:19-77:22. Indeed, with respect to the Sidewinder rocket motor, there was little or no  
8 trimming necessary. Wever Dec. ¶ 40; Beach Dec. ¶ 5; Sachara Dec. ¶ 11. All  
9 propellant trimmings were placed in a combustible container for later transport to the  
10 burn pit for burning. Wever Dec. ¶ 40; Beach Dec. ¶ 5; Willis Dec. ¶ 10; Sachara Dec. ¶  
11 11; Bland Dec. ¶ 8; Ustan Dec. ¶ 12.

12       The buildings utilized in the production process were built in such a fashion to  
13 ensure that emissions, if any, were self contained within the building. Wever Dec. ¶ 20.  
14 The small amount of waste generated in the production process was all sent to the burn  
15 pit and burned. Beach Dec. ¶ 4, 11; Sachara Dec. ¶ 9; Wever Dec. ¶ ¶ 26, 31, 32, 37,  
16 40; Ustan Dec. ¶ 8. The buildings utilized for the oxidizer processing were fully enclosed  
17 and were cleaned after use by sweeping material off the floor and wiping down  
18 equipment. Wever Dec. ¶ 23-26. All excess oxidizer (including any sweepings and the  
19 rags used to clean the equipment), scrap propellant and spent solvent were collected,  
20 placed in combustible containers, and sent to the burn pit for disposal. Wever Dec. ¶ 23-  
21 26, 31, 32. Any remaining propellant in either the transfer vessel or the mixer was  
22 removed using beryllium spatulas and placed into combustible containers for later  
23 transport to the burn pit for burning. Wever Dec. ¶ 31-32; Willis Dec. ¶ 7; Haggard Dep.,  
24 40:11-46:11. The mixer and transfer vessel were then cleaned with solvent. *Id.* The  
25 spent solvent and/or rags containing spent solvent were then placed in combustible  
26 containers for later transport to the burn pit for burning. Wever Dec. ¶ 31-32; Willis Dec.  
27 ¶ 7.

28       Goodrich did not produce propellant on a daily basis, instead, it was produced on

1 an as needed basis, dictated by the production schedule. Wever Dec. ¶ 42; Beach Dec.  
2 ¶ 6; Haggard Dep., 151:5-20, 156:17-157:23, 199:2-22. Former Goodrich employees  
3 testified that propellant was not mixed several times per week. Wever Dec. ¶ 42.

### 4 3. For the Most Part, Goodrich Operated a Research & 5 Development Facility in Rialto

6 Much of Goodrich's operations in Rialto, California involved the research and  
7 development of different propellant formulations. While ammonium perchlorate was a  
8 common oxidizer used in these experimental propellants, it was not the only oxidizer  
9 used. Sachara Dec. ¶ 4. The mixing of propellant for research and development  
10 purposes was similar to that of propellant made for production purposes, but on a much  
11 smaller scale. Wever Dec. ¶ 43; Graham Dec. ¶ 4.

12 Also, as part of research and development, the researchers and lab technicians  
13 conducted various tests on the properties of the propellant, including strand burning  
14 tests and tensile strength tests. Shook Dep., 19:2-22 (heat combustion test and specific  
15 gravity test); Morris Dep., 20:8-21:10 (strand burning test); Holtzclaw Dec ¶ 3; see  
16 *generally* Graham Dec. ¶ 4; Ustan Dec. ¶ 3-4. These tests did not create a significant  
17 amount of waste. Shook Dep., 31:2-19, 47:1-8; Morris Dep., 31:11-33:2. Any waste  
18 propellant and oxidizer that was created during the research and development process  
19 was disposed of by burning in the burn pit. Graham Dec. ¶ 5; Sachara Dec ¶ 3, 9;  
20 Wever Dec. ¶ 43; Morris Dep., 31:11-33:2.

### 21 4. Static Test Firing Bay

22 As part of both its production and research and development operations,  
23 Goodrich used a static test bay to test fire motors several times a week – test firings did  
24 not occur every day. Staton Dep., 38:20-21; Garee Dep., 157:5-23; Wever Dec. ¶ 50-52;  
25 Graham Dec. ¶ 7. Most of the motors tested were small research and development  
26 motors, designed to test experimental propellant. Staton Dep., 38:22-24; Wever Dec. ¶  
27 43, 50; Graham Dec. ¶ 4. However, one motor from each batch of production rockets  
28 were tested in the static test bay. Wever Dec. ¶ 50.



1 After a static test firing was completed, the propellant was completely burned,  
2 meaning no propellant remained inside the motor casing or on the ground around the  
3 static test bay. Sachara Dec. ¶ 8; Graham Dec. ¶ 7; Wever Dec. ¶ 52; Staton Dep.,  
4 36:5-29, 75:5-16; Garee Dep., 25:4-25, 33:5-20, 47:2-9, 277:6-16, 279:2-17, 285:2-13;  
5 Haggard Dep., 122:14-123:14; Morris Dep., 44:3-46:7; Ustan Dec. ¶ 10. No water was  
6 used in connection with the testing of rocket motors at the test bay. Sachara Dec. ¶ 8;  
7 Graham Dec. ¶ 7; Willis Dec. ¶ 18; Wever Dec. ¶ 52; Staton Dep., 26:1-8, 36:15-20.

8 The static test firing bay is not a disposal site, despite allegations to the contrary  
9 by the Advocacy team. As confirmed by the repeated testimony of former Goodrich  
10 employees, the test firing of research and development motors and production motors  
11 did not generate any waste because ***all of the propellant was consumed in the test***  
12 ***firing***. Sachara Dec. ¶ 8; Graham Dec. ¶ 7; Wever Dec. ¶ 52; Staton Dep., 36:5-14,  
13 75:5-16; Garee Dep., 25:4-25, 33:5-20, 47:2-9, 277:6-16, 279:2-17, 285:2-13; Haggard  
14 Dep., 122:14-123:14; Morris Dep., 44:3-46:7. Moreover, it is the opinion of Dr. Claude  
15 Merrill, who has conducted motor test firings over decades, that “once a high ammonium  
16 perchlorate concentration, solid propellant motor is ignited, the propellant completely  
17 burns” and that “there would be no scrap propellant remaining after igniting a motor in  
18 the Goodrich static test firing bay, even if there was a ‘failure’ of the motor itself.” Merrill  
19 Dec. ¶ 16.

## 20 5. Goodrich Disposed of All Propellant Waste in a Single Burn Pit

21 Despite the Advocacy Team’s allegations to the contrary, the Goodrich plant in  
22 Rialto contained a ***single burn pit*** – this fact is confirmed by the testimony of numerous  
23 former Goodrich employees, including Mr. Lou Staton, the former supervisor of the burn  
24 pit. Wever Dec. ¶ 53; Graham Dec. ¶ 5; Willis Dec. ¶ 19; Beach Dec. ¶ 11; Sachara  
25 Dec. ¶ 9; Staton Dep., 21:25-22:1, 27:4-14; Garee Dep., 83:2-87:9; Hernandez Dec. ¶ 7;  
26 Ustan Dec. ¶ 8; see *also*, Bennett Dec. ¶ 16. The testimony of former employees  
27 confirms that Goodrich’s one burn pit was located near the static test firing stand.  
28 Sachara Dec. ¶ 9; Wever Dec. ¶ 53; Beach Dec. ¶ 11.

1 As confirmed by Mr. Dwight Wever, the former safety engineer responsible for  
2 setting the burn pit procedures, and consistent with industry and government standards  
3 at that time, Goodrich required that "[a]ll oxidizer waste, including ammonium  
4 perchlorate, and propellant waste generated at the Rialto plant was disposed of in the  
5 burn pit, without exception. In addition, all spent solvent and rags used with solvent  
6 were disposed of in the burn pit, without exception." Wever Dec. ¶¶ 53-54; Ex. 118  
7 (Ordnance Manual, ORD-M 7-224, § 27); Ex. 117 (Explosives Manual, TO 11A-1-34);  
8 Ex. 50 (Destruction Manual TM9-1903); Ex. 110 (1956 Safety Procedures); see also  
9 Sachara Dec. ¶ 12; Graham Dec. ¶ 5; Willis Dec. ¶ 7; Beach Dec. ¶¶ 4-5, 11.

10 The frequency of the burns was based on the production schedule; in other  
11 words, a burn was conducted after each batch of propellant was manufactured. Wever  
12 Dec. ¶ 60. Material placed in the burn pit was burned immediately; no scrap was left  
13 outside or in the burn pit overnight, or for extended periods of time. Wever Dec. ¶ 55;  
14 Willis Dec. ¶ 19; Staton Dep., 57:2-58:8, 63:6-16; Garee Dep., 83:2-87:18; Hernandez  
15 Dec. ¶ 7; Ustan Dec. ¶ 8. The burn pit was never rinsed with water, and burns did not  
16 occur during rainy or windy conditions. Wever Dec. ¶¶ 57-60; Staton Dep., 26:1-15.

17 Material to be burned was placed in cardboard containers and then transferred to  
18 the burn pit in push carts. Wever Dec. ¶¶ 26, 31, 32, 37, 40, 55. These containers were  
19 carefully stacked into the burn pit in a very specific order. Wever Dec. ¶ 56. First, the  
20 combustible containers of excess propellant from the mixer along with the minimal  
21 trimmings were placed into the burn pit, then any excess oxidizer (again contained in  
22 combustible containers) was placed into the burn pit, and last, any rags or any solvent  
23 containing propellant or oxidizer (along with any dust masks or gloves worn by Goodrich  
24 operators) was placed on top. Wever Dec. ¶ 56. The burn was ignited through the use  
25 of a remote igniter operated by a battery from the test stand. Wever Dec. ¶ 58.

26 As would be expected given the nature of rocket propellant, the material burned  
27 very fast and very hot. Wever Dec. ¶ 58; Graham Dec. ¶ 6. No material remained in the  
28 burn pit after a burn. Wever Dec. ¶ 58; Beach Dec. ¶ 11; Willis Dec. ¶ 19; Graham Dec.

¶ 6; Staton Dep., 25:23-25, 98:4-7, 98:11-25; Garee Dep., 190:2-193:8, 270:1-11.

Because of the manner in which Goodrich's propellant related waste was handled, virtually all of it (including the oxidizer and spent solvent) was consumed in the fire, and thus not discharged into the environment. Recent tests performed by an expert in chemical engineering have shown that propellants burned in a burn pit, such as the one used by Goodrich, produce virtually undetectable concentrations of perchlorate in the residual ash. Oxley Dec. ¶ 12-14. Dr. Jimmie Oxley, a Professor of Chemistry at the University of Rhode Island and Co-Director of the Forensic Science Partnership, conducted numerous burns using propellant formulations similar to those used by Goodrich, and concluded that the percentage of perchlorate remaining (out of the original propellant burned) was only 0.002%. Oxley Dec. ¶¶ 1, 12. These tests clearly show that burning is an extremely efficient means to dispose of perchlorate containing wastes and that Goodrich did not discharge perchlorate into the soil or groundwater through its use of a burn pit at its Rialto facility.

#### 6. There is No Evidence that Goodrich Used Trichloroethylene

Despite the multiple assertions and assumptions made by the Advocacy Team, there is no evidence that Goodrich used Trichloroethylene ("TCE") at its Rialto facility. Indeed, several former Goodrich employees affirmatively testified that **TCE was not used** in any part of Goodrich's operations in Rialto. Haggard Dep., 54:10-23 ("Q. Do you recall there ever being an instance where you used a chemical called trichloroethylene to clean the mixers? A. Not to my knowledge."); Garee Dep., 122:6-123:18; Morris Dep., 39:3-25 ("Q. Are you familiar with a solvent called trichloroethylene? A. Yes. Used that in the Air Force. Q. Did you ever use trichloroethylene at the Goodrich facility? A. No."); Shook Dep., 29:2-19; Holtzclaw Dec. ¶ 9 ("I recall that acetone was used at the Rialto facility to clean the carriages where propellant was cured. I do not recall any other solvent being used at the facility. I do not recall ever seeing Trichloroethylene or hearing of any employees using Trichloroethylene at the facility."); Willis Dec. ¶ 13 ("During the entire length of my employment at

1 Goodrich, I never used and I did not see other employee[s] use trichloroethylene at  
2 Goodrich's Rialto facility."); Hernandez Dec. ¶ 3 ("To my knowledge, only MEK and  
3 acetone were stored at Goodrich. I do not recall the solvent trichloroethylene ever being  
4 stored at Goodrich."); Bland Dec. ¶ 10.

5 The only witness the Advocacy Team relies upon to establish that Goodrich used  
6 TCE is Mr. Dwight Wever, but Mr. Wever, after careful reflection, testified that he cannot  
7 recall what type of solvent was used at the Goodrich facility in Rialto:

8 I am aware that a solvent was used to clean the mixing equipment,  
9 but at this time I have no recollection of the specific solvent used in  
this process.

10 Wever Dec. ¶ 32. Indeed, Mr. Wever, cannot identify exactly what type of solvent was  
11 used for any cleaning purpose at Goodrich. Wever Dec. ¶ 32. Simply stated, the  
12 Advocacy Team cannot cite to one piece of evidence, either documentary or testimonial,  
13 to support the assertion that Goodrich used or disposed of TCE at its Rialto facility. See  
14 Haggard Dep., 54:10-23; Garee Dep., 122:6-123:18; Morris Dep., 39:3-21; Shook Dep.,  
15 29:2-19; Holtzclaw Dec. ¶ 9; Willis Dec. ¶ 13; Wever Dec. ¶ 32; see also Sachara Dec. ¶  
16 10; Beach Dec. ¶ 4; Graham Dec. ¶ 8.

## 17 7. Safety

18 Continuously throughout its tenure in Rialto, California, Goodrich required that all  
19 employees follow safety procedures to not only protect the employees from risk of injury  
20 but also to comply with the government and industry standards of the time. Wever Dec.  
21 ¶¶ 6, 54. Mr. Dwight Wever, the former safety engineer at Goodrich's Rialto facility,  
22 personally ensured that all employees obtained the requisite safety training for the safe  
23 handling of propellant and hazardous materials. *Id.* Goodrich's dedication to safety is  
24 evidenced by the facility's outstanding safety record – no major explosion or fire  
25 occurred during Goodrich's tenancy. Wever Dec. ¶ 62; Graham Dec. ¶ 13; Willis Dec. ¶  
26 20; Holtzclaw Dec. ¶ 5; Haggard Dep., 38:25-39:8; Ustan Dec. ¶ 6.

27 All waste propellant and oxidizer was managed pursuant to the safety regulations.  
28 Wever Dec. ¶ 54. Testimony of numerous former Goodrich employees confirms that for

1 safety reasons, propellant, oxidizer, or solvent was never left laying on the ground at the  
2 facility or buried on the site. Sachara Dec. ¶ 6; Holtzclaw Dec. ¶¶ 10-12; Graham Dec.  
3 ¶¶ 9-11; Beach Dec. ¶ 8; Willis Dec. ¶ 20; Shook Dep., 30:10-14, 53:2-60:6; Staton  
4 Dep., 15:5-17:23; Garee Dep., 79:1-23, 79:1-23; Morris Dep., 36:6-38:24; Haggard Dep.,  
5 36:6-38:24; Wever Dec. ¶¶ 63-66; Hernandez Dec. ¶¶ 5-7; Bland Dec. ¶¶ 10-11; Ustan  
6 Dec. ¶¶ 6,8.

7 Despite the Advocacy Team's assertions to the contrary, there is not one piece of  
8 evidence establishing that Goodrich buried any material in the area referred to as "D-1"  
9 in the southern portion of Goodrich's former facility. Not one witness has testified that  
10 Goodrich buried any waste propellant there; indeed, to the contrary, former Goodrich  
11 employees unanimously agree that Goodrich never buried waste propellant. Sachara  
12 Dec. ¶ 6; Holtzclaw Dec. ¶¶ 10-12; Graham Dec. ¶¶ 9-11; Beach Dec. ¶¶ 8-9; Willis Dec.  
13 ¶ 20; Shook Dep., 30:10-14, 53:2-60:6; Staton Dep., 15:5-17:23; Garee Dep., 79:1-23;  
14 Morris Dep., 36:6-38:24; Haggard Dep., 36:6-38:24; Wever Dec. ¶ 61; Hernandez Dec.  
15 ¶ 6. The Advocacy Team cannot point to one historical document establishing that  
16 Goodrich buried any waste propellant. The only "evidence" the Advocacy Team can  
17 point to is a historical, aerial photograph showing that Revetment O-1 (as named by the  
18 Rialto Ammunition Storage Point) was "modified" during Goodrich's years of operations.  
19 Ad. Team P&As, 94. This simple fact does not establish that Goodrich buried anything  
20 in that vicinity. Indeed, any such practice would have violated Goodrich's safety  
21 procedures, the applicable government regulations and was not the industry practice at  
22 the time – every former Goodrich employee testified that these procedures were *always*  
23 followed at the facility.

#### 24 8. Closure of the Goodrich Plant

25 Shortly after Goodrich began production of the Sidewinder motor, in November of  
26 1962, Mr. Dwight Wever (the project manager for the Sidewinder) discovered cracks in  
27 the propellant grain of the Sidewinder motors. Wever Dec. ¶ 46; Ex. 12  
28 (KWKA00452713); Ex. 13 (KWKA00452702). Upon discovering this problem, all

1 production of the Sidewinder motor was stopped and ultimately Goodrich lost its contract  
2 with the United States Navy. Wever Dec. ¶ 46; Ex. 98 (KWKA00452749); Ex. 15  
3 (KWKA00452767). However, Goodrich was required to return the Sidewinder motor  
4 casings to the Navy – meaning that Goodrich was required by the Navy to remove the  
5 cracked propellant from these casings and return them to the government. Wever Dec.  
6 ¶ 47.

7 In order to remove the cracked propellant from the Sidewinder casings, Goodrich  
8 developed a cutting tool and stand that was designed to auger the cured propellant out  
9 of the motor casing. Wever Dec. ¶ 47; Haggard Dep., 113:2-121:25, 210:5-213:9; Bland  
10 Dec. ¶ 9. Once the propellant was augured out of the casing, the casing was cleaned  
11 with rags and solvent to clean any remaining propellant and/or liner from the casing.  
12 Wever Dec. ¶ 47; Bland Dec. ¶ 9. No water was used to remove propellant from the  
13 Sidewinder casing during the auguring process. Wever Dec. ¶ 47; Haggard Dep.,  
14 211:25-213:11. All of the removed propellant, any rags, and any spent solvent was  
15 placed in combustible containers and sent to the burn pit for burning. Wever Dec. ¶ 47;  
16 Bland Dec. ¶ 9.

17 Former Goodrich employees, such as Mr. Jimmie Haggard, who actually assisted  
18 in this process and witnessed the removal process first hand, agree that **at no time** was  
19 any of the propellant removed from the Sidewinder casings thrown or left on the bare  
20 ground.

21 Mr. Dintzer: Did you ever observe any scrap propellant laying  
22 on the ground when you came by [the Sidewinder  
23 salvage area] either to work or after you had left or  
just incidentally being there?

24 Mr. Haggard: No.

25 Mr. Dintzer: Did you ever hear that anybody had complained  
26 about the dumping of scrap propellant on the  
ground?

27 Mr. Haggard: No.

28 Mr. Dintzer: Did you ever hear of anybody complaining about  
the dumping of solvent on the ground?

1 Mr. Haggard: No.  
2 Haggard Dep., 119:23-120:8; see also Haggard Dep., 119:4-8 ("Q. If someone said that  
3 there was scrap propellant laying all over the ground as this process was going on, the  
4 removal of propellant from the Sidewinders, would that statement be untrue? A. Yes.");  
5 see also Wever Dec. ¶ 47 ("I did not observe any of the propellant removed from the  
6 casings or solvent used spilled on the ground."). Moreover, at no time was any solvent  
7 used during this removal process ever dumped and/or spilled on the bare ground.  
8 Wever Dec. ¶ 47; Haggard Dep., 119:9-13, 120:6-8.

9 As a result of the problems encountered with the Sidewinder motors, Goodrich  
10 lost its contract with the United States Navy and ultimately was forced to close its Rialto  
11 facility. By May of 1963, the Navy was looking for another contractor to complete the  
12 Sidewinder project. Ex. 98 (KWKA00452749-57). Goodrich never obtained another  
13 contract from the United States government and by July of 1963, just seven months after  
14 discovering the cracks in the Sidewinder, Goodrich lost the Sidewinder contract, and was  
15 forced to begin closing its Rialto facility. Ex. 15 (KWKA00452767-78); see also Wever  
16 Dec. ¶ 48.

17 **B. Goodrich's Operations in Rialto, California Did Not Result in Any**  
18 **Discharges to the Groundwater**

19 The Advocacy Team's Memorandum of Points and Authorities is glaringly devoid  
20 of any evidence establishing that Goodrich's operations in Rialto, California resulted in a  
21 discharge to the groundwater in the Rialto/Colton groundwater basin. Pursuant to  
22 California state law, the Advocacy Team bears the burden of proving that Goodrich  
23 contaminated the groundwater, or that Goodrich threatens to contaminate the  
24 groundwater. But, the Advocacy Team has provided no evidence that any perchlorate  
25 used by Goodrich in its operations has actually contaminated, or threatens to  
26 contaminate, the groundwater in the Rialto/Colton basin. Instead, the Advocacy Team  
27 alleges only that Goodrich used perchlorate in its former operations and that the  
28 groundwater in the Rialto/Colton basin is contaminated with perchlorate. Ad. Team

1 P&As, 62-79. The Advocacy Team then leaps to the conclusion that the contamination  
2 in the Rialto/Colton basin must be from Goodrich's operations, at least in part. Ad. Team  
3 P&As, 93-109. The Advocacy Team admits that it does not know whether the  
4 perchlorate contamination in any given well or soil sample is actually from Goodrich's  
5 operations. Saremi Dep., 305:6-19, 307:15-308:13, 455:22-459:18, 656:19-24;  
6 Sturdivant Dep., 627:1-11, 646:20-647:4, 649:2-22; 651:17-652:9, 717:15-23; Holub  
7 Dep., 933:8-23, 934:2-15, 935:2-5, 93:10-15, 984:25-985:4, 985:18-21, 988:20-23.

8 More importantly, by ignoring this critical link in establishing actual contamination  
9 (or threatened contamination), the Advocacy Team fails to consider the transport  
10 mechanism necessary for any perchlorate to travel through the approximately 400 feet  
11 vadose zone and reach groundwater. Kresic Dec. ¶ 54. Due to the lack of water used in  
12 Goodrich's operations, the vertical transport of perchlorate through the approximately  
13 400 foot thick vadose zone could only have been driven by the natural infiltration of  
14 rainwater. Kavanaugh Dec. ¶¶ 27-28; Kresic Dec. ¶ 18. Given that the climate in Rialto,  
15 California is arid (the 50-year average rainfall is approximately 15.4 inches of rain per  
16 year), the natural infiltration is insufficient to carry residual perchlorate through the  
17 vadose zone to a depth where groundwater is present. Kresic Dec. ¶¶ 24-25, 54;  
18 Kavanaugh Dec. ¶ 29. Dr. Nevin Kresic, a hydrogeologist and modeling expert, has  
19 developed and ran models of the vadose zone underneath the property in Rialto,  
20 California. Kresic Dec. ¶ 20. Dr. Kresic's results demonstrate that if there were any  
21 residual perchlorate from Goodrich's operations it would have never reached the  
22 groundwater in the Rialto/Colton groundwater basin. Kresic Dec. ¶¶ 25, 52.

23 The Advocacy Team points to four potential sources of perchlorate contamination  
24 from Goodrich's former operations: (1) Goodrich's burn pit; (2) Goodrich's production  
25 process (including a 150-gallon mixer); (3) the static test firing bay; and (4) the  
26 sidewinder salvaging process. However, the overwhelming evidence establishes that if  
27 there were any potential perchlorate discharges from these operations, they were  
28 miniscule at best and thus never reached the groundwater nor threatens to reach



1 groundwater in the Rialto/Colton basin.

2                   **1. Goodrich's Burn Pit is NOT a Source of Perchlorate**  
3                   **Contamination**

4           It is undisputed that Goodrich **burned** its solid rocket propellant waste in a burn  
5 pit – former Goodrich employees unanimously testified to this fact and the Advocacy  
6 Team admits this in the Draft Cleanup and Abatement Order. See Wever Dec. ¶¶ 53-54;  
7 Sachara Dec. ¶ 12; Graham Dec. ¶ 5; Willis Dec. ¶ 7; Beach Dec. ¶¶ 4-5; Draft CAO,  
8 33(j). The evidence also conclusively shows that Goodrich was **required** to incinerate  
9 waste ammonium perchlorate and solvent contaminated with propellant in a burn pit.  
10 Ex. 118 (Ordnance Manual, ORD-M 7-224, § 27); Ex. 117 (Explosives Manual, TO 11A-  
11 1-34); Ex. 50 (Destruction Manual TM9-1903); Ex. 110 (1956 Safety Procedures).

12           Importantly, the overwhelming testimony of former Goodrich employees  
13 establishes that after a burn **nothing remained in the burn pit**. Wever Dec. ¶ 58;  
14 Beach Dec. ¶ 11; Willis Dec. ¶ 19; Graham Dec. ¶ 6; Staton Dep., 25:23-25, 98:4-7,  
15 98:11-25; Garee Dep., 190:2-193:8, 270:1-11. This firsthand knowledge is corroborated  
16 by tests performed by a leading expert in chemical engineering, Dr. Jimmie Oxley, which  
17 confirm that propellants burned in a burn pit, such as the one used by Goodrich, are  
18 completely consumed and that the levels of perchlorate remaining in the residual ash are  
19 virtually undetectable at approximately 0.002%. Oxley Dec. ¶¶ 12-14. The fact that  
20 Goodrich also burned oxidizer and spent solvent in its burn pit does not change this  
21 conclusion; indeed, “any additional oxidizer, such as ammonium perchlorate, only makes  
22 the burn cleaner.” Oxley Dec. ¶¶ 13. Moreover, Dr. Merrill, an expert in the industrial  
23 practices of rocket facilities, conservatively estimates that Goodrich destroyed  
24 approximately 9,599 pounds of ammonium perchlorate (much of which was contained in  
25 scrap propellant) by burning, during the entire length of Goodrich’s operations. Merrill  
26 Dec., Ex. A. Even with this conservative estimate of the amount of perchlorate burned,  
27 less than one pound of perchlorate remained in the residual ash after burning. See  
28 Merrill Dec., Ex. A; Oxley Dec. ¶¶ 13-14; Kavanaugh Dec. ¶ 23.

1 This minute amount of perchlorate is clearly insignificant given the extent of  
2 perchlorate contamination in the Rialto/Colton Groundwater Basin. Kavanaugh Dec.  
3 ¶ 90. Moreover, regardless of the mass of residual perchlorate left after burning,  
4 modeling of the vadose zone underlying the burn pit clearly demonstrates that the burn  
5 pit cannot be a source of perchlorate contamination in groundwater. Kresic Dec. ¶¶ 24-  
6 25, 52. Thus, the scientific evidence conclusively establishes that because all of  
7 Goodrich's waste propellant was disposed of by burning, Goodrich's burn pit is not a  
8 source of perchlorate contamination in the Rialto/Colton groundwater basin. Oxley Dec.  
9 ¶¶ 12-14; Kavanaugh Dec. ¶ 92; Kresic Dec. ¶ 52.

## 10 **2. Goodrich's Production Process is NOT a Source of Perchlorate** 11 **Contamination**

12 As indicated above, the testimony of all the former Goodrich employees  
13 collectively confirms that all propellant waste (including oxidizer waste) from Goodrich's  
14 production processes was sent to the burn pit to be burned. As stated above, the burn  
15 pit itself is not a source of contamination. And, as discussed above, there is no evidence  
16 that any significant quantities of perchlorate were discharged during the production  
17 process itself. Even if minimal amounts of perchlorate were released to the environment  
18 (in the form of incidental mop water), the quantity released would not provide a sufficient  
19 transport mechanism for that perchlorate to travel through the vadose zone and reach  
20 groundwater. Kavanaugh Dec. ¶¶ 34, 95.

21 The Advocacy Team relies heavily on the use of a "150 Gallon Mixer" by Goodrich  
22 as a source of perchlorate contamination. But the available evidence shows that this  
23 "larger," 150-gallon mixer was installed during the end of Goodrich's operations and was  
24 either never used or only used on one occasion. Sachara Dec. ¶ 5. And the Advocacy  
25 Team cites no evidence, because there is not any, that indicates that Goodrich's brief  
26 use of that mixer would have resulted in any release of perchlorate. The minimal usage  
27 of this mixer and absence of any evidence indicating a release of perchlorate or the  
28 application of the large amount of water necessary to transport perchlorate through the

1 vadose zone to groundwater, leads to the conclusion that Goodrich's operation in the  
2 area of the former 150-gallon mixer has not resulted in contamination of the  
3 groundwater. Kavanaugh Dec. ¶ 33.

### 4 **3. Goodrich's Former Static Test Bay is NOT a Source of** 5 **Perchlorate Contamination**

6 The evidence establishes that the static test firing bay is not a source of  
7 perchlorate contamination. Both the testimony of former Goodrich employees and  
8 expert testimony confirm that no scrap propellant remained in either the static test firing  
9 bay or the motor casing after a test firing. Sachara Dec. ¶ 8; Graham Dec. ¶ 7; Wever  
10 Dec. ¶ 52; Staton Dep., 36:5-20, 75:5-16; Garee Dep., 25:4-25, 33:5-20, 47:2-9, 277:6-  
11 16, 279:2-17, 285:2-13; Haggard Dep., 122:14-123:14; Morris Dep., 44:3-46:7; Merrill  
12 Dec. ¶¶ 16, 29; Oxley Dec. ¶¶ 12-14. As indicated above, the burning of rocket  
13 propellant is highly efficient (particularly when contained under pressure in a motor  
14 casing); thus, perchlorate in any resulting ash from the test firing of rocket motors at  
15 Goodrich would be virtually undetectable. Oxley Dec. ¶¶ 12-14. Again, such a minute  
16 amount of perchlorate remaining in ash (0.002%) is not a likely source of perchlorate in  
17 the Rialto/Colton groundwater basin. Kavanaugh Dec. ¶ 35. Even if minimal amounts of  
18 perchlorate were released to the environment in the form of ash, there is no evidence  
19 that the substantial amounts of water necessary to transport perchlorate through the  
20 vadose zone to groundwater were present at the test bay. Sachara Dec. ¶ 8; Graham  
21 Dec. ¶ 7; Willis Dec. ¶ 18; Wever Dec. ¶ 52; Staton Dep., 26:1-8. Absent large amounts  
22 of water, there is no mechanism for any residual perchlorate to reach the groundwater  
23 through the approximately 400 feet of vadose zone. Kavanaugh Dec. ¶ 35.

### 24 **4. The Salvaging of Sidewinder Motor Casings is NOT a Source of** 25 **Perchlorate Contamination**

26 The available credible testimony of former Goodrich employees, and the  
27 testimony of a propellant manufacturing expert, confirms that no water was used in the  
28 Sidewinder salvaging process and that all scrap propellant was disposed of by burning in

1 the burn pit. Wever Dec. ¶¶ 45, 47; Haggard Dep., 211:25-213:11; Merrill Dec. ¶ 19.  
2 Because no water was used in the removal process, the only transport mechanism for  
3 any incidental discharge of perchlorate (if any even occurred) is natural rainfall.  
4 Kavanaugh Dec. ¶ 32. This natural infiltration is insufficient to carry any residual  
5 perchlorate through the entire vadose zone. Kavanaugh Dec. ¶ 32. Therefore, both the  
6 eyewitness testimony and scientific evidence demonstrate that the salvaging process did  
7 not result in any perchlorate contamination in the groundwater beneath the Property.  
8 Kavanaugh Dec. ¶¶ 32, 94.

##### 9                   **5. Goodrich's Former Operations are NOT a Source of TCE** 10                   **Contamination**

11           Goodrich's former operations are not a source for any TCE contamination in the  
12 Rialto/Colton groundwater basin. There is absolutely no credible documentary or  
13 testimonial evidence that Goodrich used or disposed of TCE at its Rialto facility. Instead,  
14 the testimony of former Goodrich employees indicates that Goodrich more likely used  
15 acetone, cyclohexanone, and/or MEK for cleaning purposes. Haggard Dep., 54:10-23;  
16 Garee Dep., 122:6-123:18; Morris Dep., 39:3-25; Shook Dep., 29:2-19; Holtzclaw Dec.  
17 ¶ 9; Willis Dec. ¶ 13; Wever Dec. ¶ 32; see also Sachara Dec. ¶ 10; Beach Dec. ¶ 4;  
18 Graham Dec. ¶ 8; Bland Dec. ¶ 9-10. Finally, TCE to reach the groundwater it would  
19 require the disposal of an extremely large amount of the pure solvent to overcome the  
20 residual capacity of the vadose zone. Kavanaugh Dec. ¶ 39. There is no evidence of  
21 such a wide scale disposal of TCE by Goodrich, and in fact, the sampling data refutes it.  
22 Kavanaugh Dec. ¶ 38.

23           Moreover, the evidence establishes that any spent solvent (including rags) was  
24 burned in the burn pit. Wever Dec. ¶¶ 53-56. Because the spent solvent was disposed  
25 of in this manner, it is likely that it was completely consumed in the fire and not  
26 discharged to the environment. See, e.g., Oxley Dec. ¶¶ 13-14. Sampling results from  
27 the former burn pit also confirm that the burn pit is not a source of TCE contamination at  
28 the property. Kresic Dec. ¶¶ 36-38, 53. Thus, there is no evidence that any solvent was

1 discharged to the environment as a result of Goodrich's disposal practices, and the  
2 scientific evidence demonstrates that Goodrich's operations were not the source of any  
3 TCE detected in groundwater under the property.

4           **C.     The Advocacy Team Fails To Provide Any Evidence Establishing That**  
5           **Goodrich Discharged Any Ammonium Perchlorate or TCE to the**  
6           **Groundwater**

7                   **1.     The Advocacy Team Relies Almost Exclusively on the**  
8                   **Testimony of Mr. Ronald Polzien**

9           The Advocacy Team relies heavily on the testimony of a single witness, Mr.  
10          Ronald Polzien, and simply ignores the extensive testimony of other former Goodrich  
11          employees. The Advocacy Team's unwavering reliance on selected testimony of Mr.  
12          Polzien is seriously undermined upon a review of his entire deposition transcript  
13          (including the cross examination) and the credible testimony of other former Goodrich  
14          employees.

15          Stunningly, the Advocacy Team continues to rely upon Mr. Polzien's testimony  
16          even after his extensive contradictions were brought to light during the discovery  
17          process. Holub Dep., 290:18-291:3 (Mr. Holub concedes that Mr. Polzien provided  
18          contradictory testimony); Sturdivant Dep., 307:16-308:15, 317:16-320:17 (Ms. Sturdivant  
19          agrees that Mr. Polzien provided contradictory testimony). Even more alarming is Ms.  
20          Sturdivant's admission that the Advocacy Team relies heavily on Mr. Polzien's  
21          testimony, despite the fact that ***no one at the Regional Board recalls reviewing Mr.***  
22          ***Polzien's complete deposition transcript.*** Sturdivant Dep., 291:13-16, 667:23-668:7;  
23          Holub Dep., 246:22-247:2, 262:4-10, 276:8-278:17. A complete review of the cross  
24          examination of Mr. Polzien establishes that he either contradicts or simply retracts his  
25          prior testimony on virtually every salient point relied upon by the Advocacy Team and  
26          completely undermines Mr. Polzien's credibility as a witness in this proceeding.

27          For instance, early on in his deposition Mr. Polzien testified, under oath, regarding  
28          a conversation he had back in 1962 with Mr. Japs, who at the time was the technical  
29          manager at Goodrich and the mayor of Rialto. Mr. Polzien testified that:

1 Mr. Japs was giving me a ride home . . . and he waved to . . . the  
2 new wellheads going in for the water company. . . . **[A]t the time I**  
3 **was very concerned about solvents.** I don't know that we were  
4 particularly happy with the water we were getting anyway, but  
solvents were on my mind. I had no knowledge of perchlorate and I  
reminded him in a few words do you realize that [Goodrich's] burn  
pit is directly in line with those wellheads?

5 Polzien Dep., 156:1-158:6 (emphasis added). Mr. Polzien stated that in response to his  
6 concerns about the drinking water Mr. Polzien received at his house, Mr. Japs simply  
7 dismissed him. Polzien Dep., 353:8-18. Then, after being confronted with the fact that  
8 he sold his house three years after his conversation with Mr. Japs, but he did not  
9 disclose being "very concerned" about Rialto's drinking water to the buyers of his home,  
10 Mr. Polzien retracted his sworn testimony and conceded that:

11 At the time – I think we have gone over this many times that **I was**  
12 **not concerned and I had no evidence.** . . . This house was sold in  
13 1965. My objection to Mr. Japs – or my discussion with Mr. Japs  
14 occurred in 1962. I hope you take note that – of the time difference  
and that if **I had really been concerned, I would have notified**  
**them;** and I would certainly have moved earlier.

15 Polzien Dep., 388:17-389:9 (emphasis added). Ms. Helie, the buyer of Mr. Polzien's  
16 house in 1965, later confirmed that, despite Mr. Polzien's repeated testimony that he  
17 was concerned about the groundwater in 1962, he never disclosed that to her when she  
18 purchased his house in 1965. Helie Dep., 78:10-21, 83:9-15, 91:13-21. When asked  
19 whether the Advocacy Team should so heavily rely upon the testimony of somebody  
20 who either lied to his home buyers, or lied under oath, Ms. Sturdivant answered "I don't  
21 know about what he did. . . . I think he was testifying under oath." Sturdivant Dep.,  
22 687:2-17.

23 The Advocacy Team relies heavily upon Mr. Polzien's testimony regarding the  
24 production processes utilized by Goodrich, including oxidizer processing, mixing,  
25 casting, curing, trimming, lining and finishing processes. Ad. Team P&As, 65-68. Yet,  
26 Mr. Polzien admits that he never worked in production at Goodrich and never witnessed  
27 the production process while employed at Goodrich:

- Mr. Polzien never saw the grinding, blending, weighing or drying of oxidizer at Goodrich. Polzien Dep., 587:25-588:20.
- Mr. Polzien never witnessed the mixing of propellant at Goodrich. Polzien Dep., 588:23-589:4.
- Mr. Polzien never saw the loading or curing of rocket motors at Goodrich. Polzien Dep., 589:14-592:15.
- Mr. Polzien never saw the trimming operation at Goodrich. Polzien Dep., 728:25-729:5.
- Mr. Polzien never witnessed the cleaning operations of any of the buildings or equipment used in the production process. Polzien Dep., 693:25-697:11, 456:16-19.

How can the Advocacy Team rely so heavily on the testimony of a former employee who has no firsthand knowledge on the topics for which they cite him? And, how can the Advocacy Team simply ignore the testimony of other former employees who actually worked in the production process and disagree with Mr. Polzien's uninformed testimony? The Advocacy Team never explains why it finds Mr. Polzien credible – never explains why it ignores these other witnesses, such as Mr. Haggard, Mr. Beach, Mr. Willis, and Mr. Wever who actually worked and/or supervised the production and cleaning processes, whose testimony contradicts Mr. Polzien – never explains why it continued to rely on Mr. Polzien even after it became clear at his deposition that he repeatedly gave false statements under oath. The Advocacy Team simply has nothing other than Mr. Polzien's uncorroborated testimony to support its reckless allegations.

The Advocacy Team also relies heavily on Mr. Polzien to provide support for the uncorroborated fact that ammonium perchlorate was used in all of the propellant produced at Goodrich. Ad. Team P&As, 69-75. Yet, Mr. Polzien testified that he did not have comprehensive knowledge regarding the use of ammonium perchlorate at the Goodrich facility:

- Mr. Polzien does not recall ever seeing ammonium perchlorate delivered to the Goodrich facility. Polzien Dep., 621:16-22.
- Mr. Polzien never saw the processing of ammonium perchlorate at Goodrich. Polzien Dep., 587:25-589:4.

1                   •     Mr. Polzien does not know the specific recipes with respect to  
2                   any of the propellant produced by Goodrich. Polzien Dep.,  
3                   686:16-687:1

4                   The Advocacy Team cites Mr. Polzien's testimony to support its assertions  
5                   regarding Goodrich's use of multiple burn pits at its Rialto facility. Ad. Team P&As, 76-  
6                   78. However, even Mr. Polzien never testified that Goodrich operated more than one  
7                   burn pit. In fact, to the contrary, Mr. Polzien testified that **Goodrich only had one burn**  
8                   **pit.** Polzien Dep., 289:6-10 ("Q. Was there only one burn pit utilized in the Goodrich  
9                   facility? . . . A. As far as I know or my experience, there's only one."). At least on this  
10                  point, Mr. Polzien's testimony is consistent with the testimony of every other former  
11                  employee who said that Goodrich operated a single burn pit at the Rialto facility. Wever  
12                  Dec. ¶ 53; Graham Dec. ¶ 5; Willis Dec. ¶ 19; Beach Dec. ¶ 11; Sachara Dec. ¶ 9;  
13                  Staton Dep., 21:25-22:1, 27:4-14, Garee Dep., 83:2-87:18; Hernandez Dec. ¶ 7; Ustan  
14                  Dec. ¶ 8. see also Bennett Dec. ¶ 16.

15                 Moreover, although the Advocacy Team relies on Mr. Polzien to describe the  
16                 operation of the burn pit, Mr. Polzien admitted that he never participated in the loading of  
17                 Goodrich's burn pit and he only witnessed this process from the control room over 500  
18                 feet away. Polzien Dep., 799:18-20, 803:11-23, 823:9-18. If Mr. Polzien never  
19                 participated in the loading of the burn pit and only witnessed this process from over 500  
20                 feet away, how is any of his testimony credible regarding the loading and use of the burn  
21                 pit?

22                 The Advocacy Team relies exclusively upon Mr. Polzien's testimony that Goodrich  
23                 left propellant waste in the burn pit overnight. But the Advocacy Team neglects to inform  
24                 the Hearing Officer that **Mr. Polzien later admitted that propellant waste was never**  
25                 **left in the burn pit overnight.** Compare Polzien Dep., 129:15-19 with Polzien Dep.,  
26                 827:11-829:2. Indeed, numerous other former Goodrich employees, including Mr.  
27                 Wever, Mr. Staton, Mr. Willis, and Mr. Garee confirm that no propellant waste was ever  
28                 left in the burn pit overnight or, in fact, for any extended period of time. Wever Dec. ¶



1 55; Willis Dec. ¶ 19; Staton Dep., 57:2-58:8, 63:6-16; Garee Dep., 83:2-87:18;  
2 Hernandez Dec. ¶ 7; Ustan Dec. ¶ 8.

3 The Advocacy Team blindly relies upon Mr. Polzien's contradicted testimony  
4 regarding Goodrich's burn pit, yet never once cites to the testimony of Mr. Lou Staton,  
5 the former **supervisor of Goodrich's burn pit**. If they had, it would be clear that  
6 selected portions of Mr. Polzien's testimony regarding Goodrich's burn pit relied upon by  
7 the Advocacy Team are simply false.

8 Predictably, the Advocacy Team also relies exclusively on Mr. Polzien's testimony  
9 regarding Goodrich's static test firing bay. Ad. Team P&As, 75. Again, a review of all of  
10 Mr. Polzien's deposition demonstrates that his testimony about the test bay was either  
11 erroneous or false, and the Advocacy Team's heavy reliance on it as dubious. For  
12 instance, Mr. Polzien initially testifies that water hoses were used to rinse out the static  
13 test bay. Polzien Dep., 207:7-14. But later on, Mr. Polzien testifies that water was never  
14 used in the static test bay and there was no source of water available at the test bay.  
15 Polzien Dep., 297:15-16. Again, numerous other former Goodrich employees reliably  
16 testify that water was never used at the static test firing bay. Sachara Dec. ¶ 8; Graham  
17 Dec. ¶ 7; Willis Dec. ¶ 18; Wever Dec. ¶ 52; Staton Dep., 26:1-8.

18 In addition, the Advocacy Team relies exclusively on Mr. Polzien for the  
19 proposition that propellant remained in the static test firing bay after a test firing. Ad.  
20 Team P&As, 75. This allegation is contradicted by the testimony of every other former  
21 Goodrich employee, who all consistently testify that after a static test firing was  
22 completed, the propellant was completely burned and no propellant remained inside the  
23 motor casing or on the ground around the static test bay. Sachara Dec. ¶ 8; Graham  
24 Dec. ¶ 7; Wever Dec. ¶ 52; Staton Dep., 36:5-20, 75:5-16; Garee Dep., 25:4-25, 33:5-  
25 20, 47:2-9, 277:6-16, 279:2-17, 285:2-13; Haggard Dep., 122:14-123:14; Morris Dep.,  
26 44:3-46:7.

27 An expert in the industrial practices of solid rocket manufacturing facilities who  
28 has "studied one atmosphere pressure (open air) burns for many polybutadiene binder,

1 ammonium perchlorate solid propellants chemically similar to Goodrich's propellant  
2 formulation" confirms that:

3 All propellants containing ammonium perchlorate concentration of  
4 68 weight percent or greater burned completely so that no residues  
5 remained except for aluminum oxide combustion product for  
6 aluminized solid propellant. This would be true for polysulfide  
7 binder-ammonium perchlorate propellants as well. In my experience  
8 when this type of solid rocket propellant was ignited it did not "self  
9 extinguish." Therefore, ***motors that were test fired in Goodrich's  
10 static test firing bay would burn completely and would not  
11 contain propellant after they were ignited.***

12 Merrill Dec. ¶ 29 (emphasis added).

13 Even the Advocacy Team appears to realize the limitations of Mr. Polzien's  
14 testimony because it does not rely upon Mr. Polzien's testimony regarding the use of  
15 TCE at the Goodrich facility. This is more than likely because Mr. Polzien admits that he  
16 does not know whether Goodrich used trichloroethylene or trichloroethane:

17 Mr. Dintzer: Do you know whether or not the cleaning solvent that  
18 [Goodrich] used in the mixers and the other places  
19 where they had this solvent was trichloroethane or  
20 trichloroethylene?

21 Mr. Polzien: I don't.

22 \* \* \*

23 Mr. Dintzer: Do you know whether the solvent that made part of the  
24 slurry was trichloroethylene or trichloroethane?

25 Mr. Polzien: In light of what you just told me and my ignorance  
26 between the two, I – I don't know.

27 Polzien Dep., 619:13-620:5.

28 Finally, the Advocacy Team relies heavily upon the testimony of Mr. Polzien  
regarding the Sidewinder salvage project undertaken by Goodrich. Ad. Team P&As, 78-  
79. Mr. Polzien testified, under oath, that propellant from these Sidewinders was strewn  
around the walkways and that he raised his concerns over this with Mr. Eugene  
Sachara, a manager at Goodrich. Polzien Dep., 1044:22-1045:13, 1029:13-1030:10.  
He testified further that Mr. Sachara wrote a letter to the production manager (Mr.  
Shields) insisting that the problem be corrected immediately. Polzien Dep., 153:2-

1 154:15. Mr. Sachara, whose credibility is not in doubt, testified that *the events Mr.*  
2 *Polzien described never took place:*

3 At no point during my employment at the Rialto facility did Mr.  
4 Polzien ever tell me that he was concerned about working around  
5 the test-firing area. He also never complained to me about the  
6 manner in which propellant was being removed from rocket casings.  
7 Despite, Mr. Polzien's assertions to the contrary, I never expressed  
8 concerns about the safety of removing propellant from rocket  
9 casings to Jack Shields orally or in writing. Furthermore, I never  
10 communicated to Jack Shields orally or in writing about the  
11 existence of scrap propellant on the ground at the Rialto facility.

12 Sachara Dec. ¶ 13. Moreover, the testimony of the former Goodrich employees actually  
13 involved in this salvaging process confirms that scrap propellant was never left  
14 remaining on the ground and that water was not used to assist in the removal of  
15 propellant from the motor casings. Haggard Dep., 119:4-8, 119:23-120:5, 211:25-  
16 213:11; Wever Dec. ¶¶ 45, 47.

17 The full record demonstrates that the credibility and reliability of Mr. Polzien's  
18 deposition testimony is non-existent, and thus his testimony should not be relied upon in  
19 any manner.

## 20 **2. The Advocacy Team Has Provided Incomplete or Misleading** 21 **Support for its Position**

22 The Advocacy Team's submission fails to produce any credible evidence in its  
23 case against Goodrich. Many of the Advocacy Team's citations are simply incorrect or  
24 the cited testimony has little or nothing to do with the stated allegations. Other citations  
25 are taken out of context or fail to take into account later, contradictory testimony by the  
26 witnesses, and in particular the testimony of Ronald Polzien, who repeatedly is shown to  
27 have made false statements under oath. Some seemingly dispositive allegations are  
28 simply unsupported by any citation at all.<sup>1</sup> The Advocacy Team's repeated and heavy

<sup>1</sup> The Advocacy Team's ignorance of the Goodrich's actual former operations is perhaps  
explained by the admission of the principal draftsman, Mr. Sturdivant, that she did not  
even read all the available deposition testimony but instead relied upon deposition  
summaries. See, e.g., Sturdivant Dep., 982:9-986:21. Even more alarming is that these  
summaries identify contradictory testimony – Mr. Sturdivant has no explanation for  
ignoring this relevant evidence. Sturdivant Dep., 983:24-990:22; "Q. Well do you think it  
would have been important to review carefully the testimony of the leadman with respect

1 reliance upon false allegations, unsupported citations, and an utter lack of regard for the  
2 distinction between credible "evidence" and pure conjecture or speculation is disturbing.  
3 The Advocacy Team has failed to substantiate the allegations in the Draft Cleanup and  
4 Abatement Order concerning Goodrich's alleged conduct at the site. For these reasons,  
5 no order should be issued against Goodrich and the case against Goodrich must be  
6 dismissed.

7                   **3. The Advocacy Team's Allegations Regarding Goodrich's**  
8                   **Disposal Practices are Based on Pure Speculation – NOT Facts**

9                   **a. The Facts Establish That Goodrich Had One Burn Pit –**  
10                   **NOT Two Burn Pits**

11           The overwhelming weight of the evidence confirms that Goodrich had **one burn**  
12 **pit** at the Rialto plant. Ignoring this evidence, the Advocacy Team purports that,  
13 "Goodrich maintained at least two burns [sic] pits that were utilized to dispose of all  
14 production waste." Ad. Team P&As, 76. In support, the Advocacy Team cites to Mr.  
15 Polzien and Mr. Wever (Ad. Team P&As, 76), but both Mr. Polzien and Mr. Wever  
16 testifies that Goodrich used only one burn pit – not two. Wever Dec. ¶ 53; Polzien Dep.,  
17 289:6-10. Moreover, Ms. Sturdivant, a member of the Advocacy Team and primary  
18 draftswoman of the charges against Goodrich, conceded during her deposition that  
19 testimony cited does not support the assertion that Goodrich used two burn pits.  
20 Sturdivant Dep., 328:5-331:19, 692:18-694:16., 986:23-987:9 ("I mentioned the other  
21 day where I cited Mr. Polzien and had indicated two burn pits from the citation, and that  
22 was incorrect.") Indeed, after being confronted with the contradictory testimony by the  
23 only two witnesses that the Advocacy Team cites, Ms. Sturdivant admits that the  
24 testimony demonstrates that Goodrich operated only one burn pit, contrary to the

25 to the burn pit at the Goodrich facility? A. Yes, yes. Q. to find out what he had to say  
26 about the burn pit and its operations? A. Yes. Q. Well, but you didn't do that? A. Not  
27 personally, no. Q. You didn't include any of his testimony? [objection omitted] A. Yes,  
28 I think that is correct. . . Q. Is there a reason you didn't tell the State Board Hearing  
Officer that Mr. Staton, the lead man on the burn pit, said that the waste was burned the  
day it was put in the pit? A. No, I don't have a reason.); see *a/so*, Ex. 20250 (Staton  
Summary); Ex. 20251 (Garee Summary); Ex 20394 (Morris Summary).

1 assertion made by the Advocacy Team. *Id.* 987:19-988:5.

2 Other former Goodrich employees confirm that Goodrich utilized only one burn pit:

- 3 • “Goodrich’s Rialto facility had one burn pit. . . .” Staton Dep., 21:25-  
4 22:1.
- 5 • “Goodrich’s Rialto facility had one burn pit that had a fence  
6 surrounding the area.” Sachara Dec. ¶ 9.
- 7 • “Goodrich’s Rialto facility had one burn pit that was fenced with a  
8 locked gate.” Willis Dec. ¶ 19.
- 9 • “There was only one burn pit located at the B.F. Goodrich Rialto  
10 plant.” Graham Dec. ¶ 5.
- 11 • To my knowledge, there was only one burn pit at Goodrich in Rialto,  
12 California.” Hernandez Dec. ¶ 7.
- 13 • “Goodrich Rialto facility had one burn pit that was approximately 300  
14 yards from the laboratory.” Ustan Dec. ¶ 8.

15 The testimony further confirms that there was no additional disposal site at Goodrich’s  
16 Rialto facility. Wever Dec. ¶ 61 (“there was no ‘second disposal pit’ on the far  
17 southeastern portion of the property”); Wever Dec. ¶ 53; Graham Dec. ¶ 9 (“While I was  
18 employed at B.F. Goodrich there was only one burn pit at the facility and there was not a  
19 pond, landfill or any other disposal area at the facility.”); see also Willis Dec. ¶ 21 (“there  
20 was not a pond, landfill or any other disposal area at the facility.”); Morris Dep., 53:1-16;  
21 see also Sachara Dec. ¶ 14 (“There was never a trench located anywhere at the  
22 Goodrich plant for the burning or disposal of unused propellant.”); Hernandez Dec. ¶ 7;  
23 Ustan Dec. ¶ 8. The Advocacy Team simply ignores these overwhelming facts, and  
24 alleges with reckless disregard for the truth that Goodrich disposed of waste propellant in  
25 multiple burn pits.

26 **b. There is No Evidence that Goodrich Used “Area D1” as a  
27 Second Disposal Pit**

28 The Advocacy Team alleges in both the Draft Cleanup and Abatement Order and  
in its Witness Statements that Goodrich used an area commonly referred to as “Area D-  
1” as a second disposal pit. Ad. Team Witness Stmt., 5-6; Draft CAO ¶ 33(j). This  
allegation is completely unsupported by the testimonial and documentary evidence

1 before the Hearing Officer. **All** available testimony of former Goodrich employees  
2 confirms that only one burn pit was used at the Goodrich facility and that **it was located**  
3 **near the static test firing bay.**

4 Further, the available testimony confirms that Goodrich never used a **trench,**  
5 **pond, pool, ditch, landfill or other disposal pit beyond the single burn pit used at**  
6 **the Rialto plant.** Wever Dec. ¶ 53; Sachara Dec. ¶ 14; Graham Dec. ¶¶ 9, 12; Willis  
7 Dec. ¶ 21; Holtzclaw Dec. ¶ 7; Morris Dep., 53:1-16; see also Bennett Dec. ¶ 16. Every  
8 former Goodrich employee adamantly agrees that **nothing was buried, dumped or**  
9 **disposed in a trench, pond, pool, ditch or other site.** Willis Dec. ¶ 20; Wever Dec.  
10 ¶¶ 61, 64-66; Holtzclaw Dec. ¶¶ 10-12; Graham Dec. ¶¶ 9-12; Beach Dec. ¶¶ 8-9;  
11 Hernandez Dec. ¶ 7; Bland Dec. ¶ 11; Ustan Dec. ¶ 8.

12 Nor is there even one historical document evidencing Goodrich's use of a  
13 disposal area on the Southeastern portion of the property. While the Advocacy Team  
14 claims to cite to photographs in Attachment 31 to its Memorandum of Points and  
15 Authorities – these photographs were **never produced to Goodrich in violation of the**  
16 **Hearing Officer's Notice of Public Hearing** (and all amendments thereto). Further, the  
17 Advocacy Team bases its two burn pit theory on their interpretation of the undisclosed  
18 photographs, despite the fact that not one member of the Advocacy Team has any  
19 formal training in the interpretation of aerial photographs. Holub Dep., 300:20-22;  
20 Sturdivant Dep., 492:17-493:2.

21 Importantly, Mr. Adam Bennett, an expert in the interpretation of aerial  
22 photographs, has reviewed the available aerial photographs and it is his opinion that the  
23 area described by the Advocacy Team as "Area D1" at Revetment O-1 on the southern  
24 portion of the property was not used as a burn pit during Goodrich's operations:

25 [T]he tonal signatures observed are distinctly different than that  
26 observed in Goodrich's burn pit . . . and [are] similar to that of other  
27 shadows portrayed on the photograph. As such, the darkened area  
28 within Revetment O-1 [what the Advocacy Team calls area D-1] is  
due to a shadow from the steep sides of the dug out area and the  
low sun azimuth at the time the photograph was taken.

1 Bennett Dec. ¶ 18. The Advocacy Team's allegation that Goodrich utilized a second  
2 disposal pit on the southern portion of the property is pure speculation without a shred of  
3 support from witness testimony or documentary evidence and based on its own admitted  
4 inexpert interpretation of undisclosed aerial photographs. The allegations are not based  
5 on any credible evidence.

6 **c. The Advocacy Team's Allegation that Water Was Used in**  
7 **Goodrich's Burn Pit is Based Solely Upon Speculation**

8 The Advocacy Team recklessly alleges, without any citation to evidence, that  
9 "water was routed to the [Goodrich] burn pit by way of pipe buried in the ground, with a  
10 nozzle in the pit." Ad. Team P&As, 77. Former Goodrich employees unanimously refute  
11 this fact. Mr. Staton, **the supervisor of Goodrich's burn pit**, testified that water was  
12 never used at the pit, nor was water available for use. Staton Dep., 26:1-8; *see also*  
13 Willis Dec. ¶ 19; Wever Dec. ¶ 57 ("to my knowledge, there was no water source, spigot  
14 or hose located near the burn pit.")

15 In a stunning admission, Ms. Sturdivant, the member of the Advocacy Team who  
16 drafted the portion of the brief against Goodrich, testified that the inclusion of this  
17 allegation was a *mistake*:

18 Mr. Dintzer: Why didn't you put into the Memorandum of Points and  
19 Authorities that Mr. Staton, the lead man on the burn pit, says that  
20 no water was put in there?

21 Ms. Sturdivant: Because I take responsibility for the writing of the  
22 leaving the sentence in about the pipeline and that I had intended to  
23 take that out, and had written that by recollection and had not cited  
24 anything there. And I take responsibility for that error.

25 Mr. Dintzer: So you you're now saying that there shouldn't be a  
26 sentence in the Memorandum of Points and Authorities that water  
27 was put into the burn pit, is that your testimony?

28 Ms. Sturdivant: The statement regarding the pipeline to the burn pit,  
that's correct.

Mr. Dintzer: That should just be excised from the Memorandum of  
Points and Authorities and I need not worry about that anymore?

Ms. Sturdivant: Yes.

1 Sturdivant Dep., 986:4-21. This admission is even more alarming when one looks at the  
2 vast number of allegations without any support whatsoever contained in the Advocacy  
3 Team's Points and Authorities. If Ms. Sturdivant simply wrote those allegations against  
4 Goodrich based on her "recollection," like she did about water use in the burn pit, how is  
5 there any assurance that the other allegations are not fabricated?

6 Moreover, how can Ms. Sturdivant draft allegations against Goodrich based on  
7 her "recollection?" Ms. Sturdivant has no personal knowledge regarding Goodrich's  
8 operations. Sturdivant Dep., 622:5-8. Indeed, Ms. Sturdivant never worked at the  
9 former Goodrich operations and she admittedly does not recall even reading the  
10 complete deposition of the Advocacy Team's "star witness" Mr. Polzien. Sturdivant  
11 Dep., 291:13-16, 667:23-668:7. Ms. Sturdivant's "recollection," in at least this instance,  
12 simply amount to fiction.

13 d. **The Advocacy Team Has No Reliable Evidence To**  
14 **Support its Allegations That Propellant Remained in the**  
**Burn Pit After a Burn**

15 The Advocacy Team alleges that a "characteristic" of the Goodrich "burn pits" was  
16 that "the bottom [of the burn pit] was typically charred and contained leftover residue  
17 from previous burns." Ad. Team P&As 76. The Advocacy Team relies solely on Mr.  
18 Polzien's testimony as the basis for this allegation, despite the fact that during the same  
19 deposition he later testifies that he ***never saw propellant remaining in the burn pit***  
20 ***after a burn and that it was his impression that all the scrap propellant and oxidizer***  
21 ***was consumed by the burn:***

22 Mr. Dintzer: Did you -- did you ever see any scrap propellant laying  
23 around around the burn pit that was not put into the burn pit when  
you were in charge of that particular operation?

24 Mr. Polzien: No.

25 Mr. Dintzer: Okay. And was it your sense that -- based on your  
26 supervision of this particular disposal activity, that the propellant  
waste that was generated and put into the burn pit was consumed in  
27 the fire?

28 Mr. Polzien: It was my impression, but I don't know for certain.



1 Mr. Dintzer: I understand. You didn't do a test on the soil, but my  
2 question is is that -- was that your impression?

3 Mr. Polzien: That was my impression.

4 Polzien Dep., 826:13-827:2.

5 Further, every other former Goodrich employee, with firsthand knowledge  
6 regarding Goodrich's burn pit, confirms that nothing remained in the burn pit after a burn.

- 7 • Mr. Staton, the supervisor of the burn pit, testified that **nothing**  
8 **remained in the burn pit after a burn**. Staton Dep., 98:4-7 (Q. Okay. Do -- was there any smoldering of material in the burn pit  
9 after the burn? A. No, sir.) (objection omitted), 25:23-25 ("Q. Did  
10 you ever see chunks or pieces of unburnt propellant laying around  
11 on the burn pit? A. No, no."), 98:4-7, 98:11-25 ("Q. Any ash? A.  
12 Never saw any --") (objections omitted).
- 13 • Mr. Garee, who worked in production and later quality control,  
14 testified that he viewed the burn pit at least three to four times after  
15 a burn and nothing remained in the burn pit. Garee Dep. 190:2-  
16 193:8; 270:1 1-11.
- 17 • Mr. Wever, who along with Mr. Dennison set the procedures  
18 regarding the burn pit, testified that "[a]fter a burn, nothing remained  
19 in the burn pit -- all material was completely consumed during the  
20 burn." Wever Dec. ¶¶ 58-59
- 21 • Mr. Graham also testified that "[t]here was no propellant or scrap  
22 oxidizer remaining after a burn." Graham Dec. ¶ 6.

23 Moreover, Mr. Polzien's early testimony on this point is inconsistent with experts  
24 who have worked in the manufacturing of solid rocket propellant for over forty years. Dr.  
25 Claude Merrill, who has worked with solid rocket propellant with the United States Air  
26 Force since 1966, concludes that:

27 the burning of propellant and oxidizer waste is a very effective  
28 manner to dispose of this material. **In my experience all**  
**propellant and oxidizer is consumed in the burning of this**  
**waste**. Based on my review of the testimony and declarations of  
former Goodrich employees, Goodrich's standard procedures for  
loading the burn pit, with the scrap propellant stacked on the bottom  
of the pit, then containerized ammonium perchlorate (or other  
oxidizer) stacked on top, then any used rags, is a very effective  
method for disposing of this waste.

Merrill Dec. ¶ 15 (emphasis added).

Moreover, an expert in chemical engineering, Dr. Jimmie Oxley, has conducted

1 experimental burns of several varieties of Goodrich's propellant formulations (both inside  
2 the laboratory and outside) and concluded that propellant burns extremely efficiently and  
3 virtually all perchlorate is consumed during a burn. Indeed, only approximately 0.002%  
4 of the perchlorate remains in the ash after a burn. Oxley Dec. ¶¶ 12-14. Again, the  
5 Advocacy Team can cite to no reliable evidence to establish that any residue, much less  
6 perchlorate residue, remained in the burn pit after a burn. Without any such evidence,  
7 and given the substantial percipient and expert testimony to the contrary, this allegation  
8 must be disregarded as unsupported.

9 **e. There is No Evidence that Scrap Propellant was Left in**  
10 **the Burn Pit Overnight**

11 The Advocacy Team asserts that another "characteristic" of the "burn pits" was  
12 that "[u]nburned scrap and TCE/propellant slurry were at times left overnight in the pit."  
13 Ad. Team P&As, 76. The Advocacy Team again relies solely upon the testimony of Mr.  
14 Polzien for this allegation. *Id.* Yet, not even Mr. Polzien, the Advocacy Team's star  
15 witness, can confirm that waste was left in the burn pit overnight before burning. The  
16 Advocacy Team fails to mention that Mr. Polzien, himself, later retracts his prior  
17 testimony during cross examination:

18 Mr. Dintzer: Did you ever see any type of barrels or cartons of  
19 materials that were going to be burned left in the burn pit over an  
evening such that they were there the next day?

20 Mr. Polzien: I don't recall.

21 Polzien Dep., 828:16-828:20.

22 Moreover, every single former Goodrich employee with knowledge regarding the  
23 burn pit confirms the fact that waste was never left in the burn pit overnight:

- 24 • **"I never let [waste] stand.** I mean, I -- I burnt it when it was  
25 there." Staton Dep., 63:6-16; see *Id.* 57:2-58:8, 63:6-16,  
25:23-25, 98:4-7, 98:11-25 (emphasis added).
- 26 • "All material placed in the Goodrich burn pit was burned  
27 immediately. The material was never placed in the pit and  
28 left for a lengthy period of time or over night." Wever Dec.  
¶ 55.